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| HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195 | | | AFSHAR, KAMRAN | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/660,095

Applicant(s)

KOGIANTIS ET AL.

Examiner

Kamran Afshar, 703-305-7373

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-2, 4-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/14/2003 have been fully considered but they are not persuasive.

To aid the applicant very kindly:

In response to applicant's argument that the references fail to show certain features of applicant's invention, Applicant is content that Parkvall is silent as to select one of transmit configurations (i.e. selecting antenna or antennas, modulation types, data rate) using information (i.e. channel condition, or channel quality, data rate, signal quality, transmission power level, signal-to-interference ratio, signal-to-noise ratio, interference, shadowing, multi-path fading, error rate) received from mobile station. However, Parkvall discloses a bi-directional communication system (See e.g. Fig. 1). And Parkvall discloses as the mobile terminal moves or radio channel conditions change, it may be necessary for the mobile terminal to select a new maximum data rate, sector, base station and sector antennas (See e.g. Co. 9, Lines 1-9, Co. 11, Lines 27-42) based on transmitting information or capabilities. Further Parkvall teaches that one measure of the channel quality is: signal-to-noise ratio ($E_{sub.b} / N_{sub.o}$) or signal-to-interference ratio (C/I) (See e.g. Co. 6, Lines 61-67); and the mobile terminal determines a channel quality or maximum supportable data rate for each of the plural antennas in each candidate sector. The mobile terminal transmits one and / or more messages with a maximum data rate for a selected sector and sector antenna at the higher frequency to the base station. Based on the information / capabilities received from the mobile terminal, one of the plural

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antennas at a selected sector / configuration is used to transmit data at the corresponding rate to the mobile terminal. In effect, the plural sector antennas provide a form of transmit diversity as an "overlaid" sectors (See Co. 5, Lines 13-27). Therefore, Examiner believes that Parkvall discloses to select one of transmit configurations (i.e. selecting antenna or antennas, modulation types, data rate) using information (i.e. channel condition, or channel quality, data rate, signal quality, transmission power level, signal-to-interference ratio, signal-to-noise ratio, interference, shadowing, multi-path fading, error rate) received from mobile station. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 4-8, 10-14, 17-18, 21-29 are rejected under 35 U.S.C. 102(e) as being anticipated Parkvall (U.S. Patent 6,542,736 B1).

With respect to claims 1, 15, 16, 18, 26 & 28, Parkvall discloses a method for reconfiguring /(e.g. radio link adaptation) a communication system (See Title, Abstract),

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receiving, from a mobile station, mobile station capability information (e.g. channel condition, data rate, channel quality, signal quality, transmission power level, interference, shadowing, multi-path fading, See i.e. Co. 2, Lines 10-36, Co. 5, Lines 13-27, Fig. 2) / mobility of the mobile station (e.g. as the mobile terminal moves or radio channel conditions / quality change, See Co. 8, Line 65 – Co. 9, Line 21) including a plurality of the mobile station's capabilities (e.g. bit error rate, signal-to-noise interference ratio, See Co. 2, Lines 47- 62, Co. 6, Lines 54-67); and selecting one of a plurality of transmit configurations (e.g. selecting transmission power level/ data rate, best base station , sector, antenna or antennas, and modulation type, See Figs 6-7, Co. 9, Line 10-20, Co. 10, Lines 20-32, flow chart of Figs. 11-12, Co. 11, Lines 12-66) using at least one of the plurality of mobile station capability (e.g. maximum data rate, channel quality, signal quality, transmission power level, interference) information received / sent (See Co. 8, Line 65 – Co. 9, Line 9, Co. 10, Lines 48, Figs 6-8, 11-12 & Entire).

Regarding claim2, Parkvall discloses receiving information on mobility of the mobile station (e.g. as the mobile terminal moves, See Co. 8, Line 65 – Co. 9, Line 9); and selecting step selects one of the plurality of transmit configurations using at least one of the plurality of mobile station capabilities (e.g. channel condition, data rate, channel quality, signal quality, transmission power level, interference, shadowing, multi-path fading, See i.e. Co. 2, Lines 10-36, Co. 5, Lines 13-27, Fig. 2) channel quality information, the mobile station capability information and the information on the mobility of the mobile station (See Co. 8, Line 65 – Co. 9, Line 21, Co. 10, Lines 48, Figs 6-8, 11-12 & Entire).

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Regarding claim 4, Parkvall discloses the channel quality information includes information on a carrier to noise ratio of a communication channel (See i.e. Co. 6, Lines 54-67 & Fig. 2, Co. 11, Lines 11-42).

Regarding claim 5, Parkvall discloses the channel quality information includes information on a signal to noise ratio of a communication channel (See i.e. Co. 6, Lines 54-67 & Fig. 2, Co. 11, Lines 12-42).

Regarding claim 6, Parkvall discloses the channel quality information includes information on an error rate (See i.e. Co. 6, Lines 54-67 & Fig. 2, Co. 11, Lines 12-42).

Regarding claim 7, Parkvall discloses the step of selecting comprises selecting a single antenna transmit configuration (See Co. 5, Lines 13-27, Co. 10, Lines 34-48, Fig. 8, Co. 11, Lines 12-42, Figs 11-12).

Regarding claim 8, Parkvall discloses the step of selecting comprises selecting a selection transmit diversity transmit configuration (See Co. 5, Lines 13-27, Co. 10, Lines 34-48, Fig. 8, Co. 11, Lines 12-42).

Regarding claim 10, Parkvall discloses the step of selecting comprises selecting a multi-output and multi-input transmit configuration (See Co. 5, Lines 13-27, Co. 10, Lines 34-48, Fig. 8, Co. 11, Lines 12-42).

Regarding claim 11, Parkvall discloses selecting a configuration that selects one of a plurality of transmit antennas (See Co. 5, Lines 13-27, Co. 10, Lines 34-48, Fig. 8, Co. 11, Lines 12-42).

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Regarding claim 12, Parkvall discloses selecting a configuration that transmits using a plurality of transmit antennas (See Co. 5, Lines 13-27, Co. 10, Lines 34-48, Fig. 8, Co. 11, Lines 12-42).

Regarding claim 13, Parkvall discloses each antenna uses a different orthogonal code (See Co. 11, Lines 1-11).

Regarding claim 14, Parkvall discloses where each antenna uses a different Walsh code (See Co. 11, Lines 1-11).

Regarding claim 17, Parkvall discloses sending, from the mobile station, mobility information of the mobile station (e.g. as the mobile terminal moves, See Co. 8, Line 65 – Co. 9, Line 21) and wherein, the receiving, by the mobile station, includes receiving the selected transmit configuration (e.g. selecting transmission power level/ data rate, best base station, sector and antenna or antennas, modulation type, See Figs 6-7, Co. 9, Line 10-20, Co. 10, Lines 20-32, flow chart of Figs. 11-12, Co. 11, Lines 12-66) that is based on the channel quality information sent, the mobility information sent, and at least one of the mobile station capabilities sent (e.g. data rate, channel quality, signal quality, transmission power level, interference, See Co. 8, Line 65 – Co. 9, Line 9, Co. 10, Lines 48, Figs 6-8, 11-12, Co. 11, Lines 12-67).

Regarding claims 21, 23 Parkvall discloses receiving channel quality information and wherein, the selecting step includes selecting one of the plurality of transmit configurations (e.g. selecting transmission power level/ data rate, best base station, sector and antenna or antennas, modulation type, See Figs 6-7, Co. 9, Line 10-20, Co. 10, Lines 20-32, flow chart of Figs. 11-12, Co. 11, Lines 12-66) using the channel quality information received and at least one of the

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plurality of mobile station capabilities received (See Figs 6-7, Co. 9, Line 10-20, Co. 10, Lines 20-32, Co. 8, Line 65 – Co. 9, Line 9, Co. 10, Lines 48, Figs 6-8, 11-12).

Regarding claims 22, Parkvall discloses the plurality of mobile station capabilities includes a plurality of transmit configurations supported by the mobile station (See Co. 11, Lines 58 - Co. 12, Line 4).

Regarding claims 24, Parkvall discloses sending, from the mobile station, channel quality information and wherein, the receiving, by the mobile station, includes receiving a selected transmit configuration (e.g. selecting transmission power level/ data rate, best base station, sector and antenna or antennas, modulation type, See Figs 6-7, Co. 9, Line 10-20, Co. 10, Lines 20-32, flow chart of Figs. 11-12, Co. 11, Lines 12-66) that is based on the channel quality information sent and at least one of the plurality of mobile station capabilities sent (See Figs 6-7, Co. 9, Line 10-20, Co. 10, Lines 20-32, Co. 8, Line 65 – Co. 9, Line 9, Co. 10, Lines 48, Figs 6-8, 11-12).

Regarding claims 25, Parkvall discloses sending, from the mobile station, channel quality information and wherein, the receiving, by the mobile station, (See bi-directional communication links of fig. 7) includes receiving the selected transmit configuration (e.g. selecting transmission power level/ data rate, best base station, sector and antenna or antennas, modulation type, See Figs 6-7, Co. 9, Line 10-20, Co. 10, Lines 20-32, flow chart of Figs. 11-12, Co. 11, Lines 12-66) based on the mobility information sent and the channel quality information sent (e.g. channel condition, data rate, channel quality, signal quality, transmission power level, interference, shadowing, multi-path fading, See i.e. Co. 2, Lines 10-36, Co. 5, Lines 13-27, Fig. 2).

Regarding claims 27, Parkvall discloses transmitting using the selected one of the plurality of transmit configurations (e.g. selecting transmission power level/ data rate, best base

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station, sector and antenna or antennas, modulation type, See Figs 6-7, Co. 9, Line 10-20, Co. 10, Lines 20-32, flow chart of Figs. 11-12, Co. 11, Lines 12-66).

Regarding claims 29, Parkvall discloses by the mobile station, transmission using the selected transmit configuration (e.g. selecting transmission power level/ data rate, best base station, sector and antenna or antennas, modulation type, See Figs 6-7, Co. 9, Line 10-20, Co. 10, Lines 20-32, flow chart of Figs. 11-12, Co. 11, Lines 12-66).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parkvall (U.S. Patent 6,542,736 B1) in view of Allpress et al (U. S. Patent 6,392,988 B1).

Regarding claim 9, Parkvall discloses everything as applied above in claim 1. However, Parkvall failed teaching space time spreading transmit configuration. In the same field of endeavor, Allpress teaches space time spreading transmit configuration (See Co. 1 Line 61 – Co. 2, Line 25). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide above teaching of Allpress to Parkvall to facilitate space time spreading transmit configuration as suggested by Allpress (See Co. 1 Line 61 – Co. 2, Line 25).

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6. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parkvall (U.S. Patent 6,542,736 B1) in view of Lee (U.S. Patent 6,456,604 B1).

Regarding claims 19-20, Parkvall discloses everything as applied above in claim 1. However, Parkvall did not explicitly teach communicating the selected transmit configuration (e.g. data rate / channel quality, See i.e. Co. 5, Lines 13-27, Fig. 2) to the mobile device over a control channel, wherein the control channel is at least one of a paging channel and synchronization channel. In the same field of endeavor, Lee teaches controlling / increasing data transmission to mobile terminal and detecting the maximum velocity / mobility (See Co. 7, Lines 29-39, Co. 10, Line 60 – Co. 11, Line 5) of the mobile terminal / device over a control channel; wherein, the control channel is at least one of a paging channel and synchronization channel (See Co.3, Table 1, Co. 4, Lines 29-38). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide above teaching of Lee to Parkvall to transmit configuration (e.g. data rate / channel quality) to the mobile device over a control channel.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (703) 305-7373. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached @ (703) 308-4040. The fax number for the organization where this application or proceeding is assigned is (703) 872-9314 for all communications.

Kamran Afshar



SINH TRAN
PRIMARY EXAMINER